

10/657,302
1/30/08
ED

AMENDMENTS TO THE SPECIFICATION

Please amend the specification as follows:

Please insert the following replacement paragraphs at page 9:

Figure 11 is a schematic representation of another embodiment of a MHD stirrer in which the electrodes are transverse to the conduit's walls and they are labeled A_i ($i = \dots, 2, 1, 0, 1, 2, \dots$) 82a, 82b, 82c, 82d and 82e.

IDC-A1,AMD

Figure 14 depicts schematically a continuous flow thermal cycluser that can be used for PCR. $A_1, A_2, B_1, B_2, C_1, C_2, D_1$, and D_2 112, 114, 116, 118, 122, 124, 128 and 130 are electrodes. ~~The different shades of gray scale denote zones maintained at different temperatures.~~

IDC-A2,AMD

on page 10 & 11

Please insert the following replacement paragraphs at page 11:

The basic building block of the controlled-flow MHD fluidic network is the conduit. Described generally with reference to Figs. 1a and 1b, the individual conduit 10 of the fluidic network has length L , width W , and height h . The conduit 10 may be capped, as depicted in Figs. 1a, 1b, 2a and 2b, or open from above as shown in Fig. 6. Moreover, conduits comprising a network of conduits may have the same or different shapes, lengths and sizes provided that the conduits are capable of bearing electrodes positioned suitably for the generation of Lorentz forces upon the application of a current or potential within a magnetic field. Suitable configurations include, for example, rectangular, as shown in Figs. 2a and 2b. Alternatively, the conduits may comprise straight, curved or slanted walls that in cross-section are square, trapezoidal, circular, oval, or any other such suitable shape or combination of shapes.

IDC-A3,AMD

The network of conduits may be simple or complex comprising any combination of curved or straight conduits with few or many interconnections arrayed in either two or three dimensions. A network 60 comprising solely of straight conduits is shown in Fig.

IDC-A4,AMD,M